CONSUMER DEPENDENCE ON SMART PHONES: THE EFFECT OF SOCIAL NEEDS, SOCIAL INFLUENCE AND CONVENIENCE IN SURABAYA

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Abstract- *This research aims to examine the affects of social needs, social influence and convenience to customers' dependence on smart phone. This quantitative and causal type research uses questionnaires for one-site survey. Purposive sampling method was used. The sample consisted of 200 respondents whose age is 21 years old above, have owned and used smart phone in Surabaya at least last two years. The result were analyzed through descriptive statistics using SPSS 18.0 and LISREL 8.0 The result was found that there is a positive impact of social needs toward dependence on smart phone. There is a positive impact of social influence toward dependence on smart phone. Furthermore, there is also positive impact of convenience toward dependence on smart phone. However, the result shows no significant impact of dependence on smart phone toward purchase behavior.*

Keywords: *Social needs, Social Influence, Convenience, Dependence, Purchase Behavior*

INTRODUCTION

Nowadays, the importance of technology in our daily lives is undeniable. This is due to the fact that in today's dynamic world, life without technology is meaningless. Technology, which basically refers to bringing together tools that ease creation, use and exchange of information, has a major goal of making tasks easier to execute as well as solving many mankind's problems. As technology continues to advance and direct even more easiness in our lives, there is a need to stress how advantageous it has been to our lives. (Source: http://eimportanceoftechnology.com/, retrieved on November 5, 2016)

As the world becomes increasingly interconnected, both economically and socially, technology adoption remains one of the defining factors in human progress. To that end, there has been a noticeable rise over the past two years in the percentage of people in the emerging and developing nations surveyed by Pew Research Center who say that they use the internet and own a smart phone. And

while people in advanced economies still use the internet more and own more high-tech gadgets, the rest of the emerging world is catching up.

According to the latest report from eMarketer, the number of smart phone users in Indonesia currently, less than 40 percent of the Indonesian population owns a smart phone (implying a still low smart phone penetration rate), while Indonesia is busy expanding its 4G technology network (a necessity for smart phone or tablet users) across the Archipelago. The number of smart phone users in Indonesia will rise from 55 million in 2015 to 92 million in 2019 with overall economic growth of Southeast Asia's largest economy in combination with rising Internet penetration as well as the young and large population according to market research company eMarketer. (Source: http://www.indonesia-investments.com, retrieved November 6, 2016)

Currently Indonesia has already become the third-largest smart phone market in the Asia-Pacific region (after China and India). Smartphone expansion in Indonesia is also supported by the government's plan to develop an information highway with broadband services for all 514 regency and municipal capital cities across the country by 2019 (through the Palapa Ring project). This project involves the development of 11,000 kilometers of undersea fibre-optic cables, divided into three sections: (1) west, (2) central and (3) east. Whereas 4G markets in advanced economies such as the USA and Japan have become saturated, Indonesia still offers a new and attractive market for 4G technology. After India and China, Indonesia has the highest amount of citizens who are not connected to the Internet. (Source: http://www.indonesia-investments.com, retrieved November 6, 2016)

According to International Data Corporation's (IDC) Quarterly Mobile Phone Tracker, 8.3 million smart phones were shipped in Indonesia in 2015Q4 – up 14.4% from 7.3 million units for the same period last year. However, the sequential increase in 2015Q4 was much higher than the same period last year as vendors shipped in higher volumes of smart phones before their import licenses expired in the end of 2015 or early 2016. The full year shipments grew 17.1% to 29.3 million units in 2015. (Source: https://www.idc.com, retrieved November 6, 2016)

According to the survey results APJII Internet users in Indonesia dominated in west part of Indonesia, which is on the island of Java (especially in big cities like Jakarta and Surabaya), Bali and Sumatra. Penetration reached 36.9% of the total population in Java. In addition, approximately 83.4% of internet users in Indonesia live in urban areas. Based on population, the highest internet user in West Java province, as many as 16.4 million, followed by East Java 12.1 million users and Central Java 10.7 million users. 85% of internet users in Indonesia use smart phone. (www.apjii.or.id, retrieved 1 February 2017).

Suki (2013) studied the effects of social needs, social influence and convenience toward dependence on smart phone and purchase behavior on smart phone in Malaysia. The results revealed that social needs and social influence have positive affect toward dependence on smart phone and student's dependence on smart phone has positive affect toward purchase behavior in Malaysia. The study, however, was limited to the scope of dependence on smart phone in Malaysia. Therefore, in this particular research, the author currently tries to conduct new study regarding to the related topic with the object of being consumer dependence on smart phone in Indonesia, represented within the area of Surabaya.

The main objectives of this particular study is to analyze the significantly affect of social needs, social influence and convenience toward dependence on smart phone. From the theoritical side, this study will empirically contribute to the research regarding the consumer dependence on smart phone in Indonesia affected on the social needs, social influence and convenience. This research can be used as the basis to enrich the existing study related to the purchase behavior, especially in the smart phone sector or in another specific country.

From the practical perspective, this study can be used as the positive suggestion for smart phone manufacturer to always innovate in the overall strategy in order to be are able to compete with the competitors in the current fierce smart phone market. Furthermore, this research is also used as the medium for the researcher to broaden the knowledge and analytical skills regarding the practical problem in the practical context.

LITERATURE REVIEW

Social Needs

Social needs include needs for belonging, love, and affection. Maslow (1943) considered these needs to be less basic than physiological and security needs quoted in (Schiffman, *et al.*, 2010, p: 118)

According to Tikkanen (2009) and Ting, *et al.*, 2011) need for social interaction with others refers as social need which is fulfill through communication with friends, family and affiliates such as group member, clubs and work. In addition, Leung and Wei (2000) stated that the use of mobile phone for affection and sociability, such as chatting, gossip, keeping family contacts and having a sense of security.

Social Influence

According to Mason (2007) Social influence is the ways other people affect one's beliefs, feelings, and behavior, which in large measure defines as social psychology. Social influences means one person causes in another to make a change on his/her feelings, attitudes, thoughts and behavior, intentionally or unintentionally (Rashotte, 2007).

Commonly it is noted that friends and family members are the major influencers who affect consumer evaluation while selecting a product (Schiffman *et al.*, 2010, p: 318; Auter, 2007). According to (Nisbett and Ross, 1980) Social influence is that situations are more powerful in controlling our behavior than we normally think. Social influence can be defined as broadly as "direct or indirect effects of one person on another" (Stang and Wrightsman, 1981, p. 47).

In addition, J. Kim, *et al.,* (2014) argued that social influence can be defined as the influence of choices of social network members. Social influence provides individuals with the information and the motivation to form new attitudes and adopt new behavior. Social influence is a key element in shaping attitudes and behaviors (Goldsmith and Goldsmith 2011, p. 120).

Convenience

Convenience is not only about timesaving, or labor-saving, and as Warde (1999) rightly argues, there remains considerable ambivalence about it among

consumers. According to Yale and Venkatesh (1986), convenience relates to savings in time and effort by consumers in the purchase of a product.

According to Brown (1990), convenience is the time and effort consumers used in purchasing a product rather than a characteristic or attribute of a product.

Dependence

According to Ahn and Jung (2016) Dependence is embeddedness of smart phones in everyday life. Dependence reflects the orientation of the analysis that involves preoccupation with other people and the need to keep them in close (Blatt and Blass, 1996).

Purchase Behavior

Purchase behavior is conceptualized as a behavior intention for future repurchase or repeat purchase and use of smart phone (Ting *et al*., 2011). According to Newberry, *et al.,* (2003) purchase behaviors reflect long term of purchasing.

According to Solomon, *et al.,* (2010) consumer buying behavior is a process of choosing, purchasing, using and disposing of products or services by the individuals and groups in order to satisfy their needs and wants. In addition, (Schiffman *et al*., 2010, p: 23) stated that behavior that consumers express when they select and purchase the products or services using their available resources in order to satisfy their needs and desires.

Therefore, in accordance with the stated literature review, this study proposes hypotheses as follow:

H1: Social needs significantly affect the student's dependence on smart phones
H2: Social influence significantly affects the students' dependence on smart phones
H3: Convenience significantly affects the students' dependence on smart phones
H4: Students' dependence on smart phone positively affects their purchase behavior

METHODOLOGY

The type of this study is categorized as causal research. This particular explanatory research design with quantitative approach describes the causal relationship between variables shown in the research model previously, which are: social needs, social influence, convenience, dependence and purchase behavior According to the type of data used, this study uses primary data which is obtained directly from the source, by spreading structural questionnaire to the respondents.

The population used in this research is all of the consumers who owns smart phone in Surabaya. In accordance to Suki (2013), this study used certain sample criterias which include all the citizen of Surabaya within the age of 21 years and above, who have experience and purchase smart phone in the last two years. In the sampling technique, the study will utilize the non-probability sampling where some elements of the population will have no chance of selection. Moreover, the method used is purposive sampling where the researcher chooses the sample based on the judgement and knowledge of the researcher in order to collect samples which meet certain criterias.

According to Bentler (2006), the number of sample needed for Structural Equation Model (SEM) is minimum five respondents for each indicator present. In this study, there are 22 indicators. Therefore, the minimum requirement of samples needed in this study is 5 respondents x 22 indicators = 110 respondents. However, the researcher decided to use 200 samples in order to obtain more consistent results.

Interval scale is used in this study since it has the same range and also homogenous with different value in each number present, making it relevant to the research definition. The type of scale utilized is itemized rating scale for all variables. For the dimensions of retail awareness, retailer association, retailer perceived quality, retailer loyalty and purchase intention, all scale items were measured by utilizing the seven-point numerical scales (1 = disagree and 5 = agree) in which the higher the score shows the better results. The pattern used in the research will be as follow :

Disagree 1 2 3 4 5 Agree

The data processing model used for the analysis in this study is Structural Equation Model (SEM) by using SPSS version 18.0 for Windows in order to examine the measurement model and then test the hypotheses. Before processing the data, the researcher initially requires to do validity and reliability tests. Validity test is done to re-check the questions in the questionnaires to make sure that it is able to be understood clearly by the respondent. Reliability test is conducted to determine the reliability of the questions in the questionnaire, whether the respondent has answered each questions consistently.

A confirmatory factor analysis is done in order to see whether the model is suitable for further study, followed by the testing of the goodness fit indexes which include The Root Mean Square of Approximation (RMSEA), Tucker Lewis Index (TLI), Goodness of Fit Index (GFI), Comparative Fit Index (CFI) and The Minimum Sample Discrepancy Function which split Degree of Freedom (CMIN/DF). Furthermore, it is recommended to use construct reliability and variance extract in order to measure of the internal consistency of a construct indicator.

In SEM, to test the hypotheses on each parameter, it can be done by observingthe regression weights estimates of the Critical Ratio (C.R.) and the p-value column. If the C.R. value is equal to or greater than 1.96, then it can be inferred that the CR value is significant, thus hypotheses is accepted. In contrast, however, when the C.R. value is lower than 1.96, it can be concluded that the CR values is not significant, thus the hypotheses is rejected. Moreover, if the p-value is less than 0.05, the hypotheses is accepted. In contrast, if the p-value is greater or equal to 0.05, the hypotheses is rejected.

RESULT AND DISCUSSION

Table 1
Sample Description

Smart Phone Brand	Samsung	
Gender	Male	124 (62%)
	Female	76 (38%)
Age	Mean Age	33 years
Education	Undergraduate School	86 (43%)
Main Reason to Purchase Smart phone	For Communication	39 (19.50%)

Source : data processed by SPSS 18.0 for Windows

The socio-demographic profile of the sample and descriptive statistics of the constructs are represented in Table1 above. Table 1 shows that the respondents comprise of 124 males (62%) and 76 males (38%). The average age of the respondents 33 years old. Based on the education of respondents, it can be seen that dominated b y the customer with last education undergraduate school. Moreover, based on the main reason to purchase smart phone by the respondents, it can be seen that for communication purpose.

Table 2

Constructs and the items

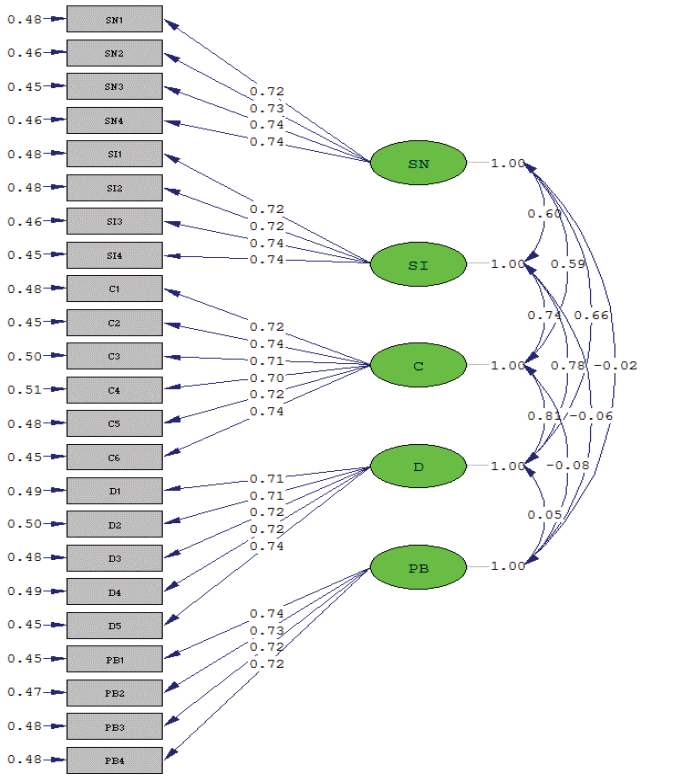
	Mean	St. Dev
Social Needs		
SN1	3.765	1.002
SN2	3.590	0.962
SN3	3.650	1.016
SN4	3.555	0.975
Social Influence		
SI1	3.760	0.947
SI2	3.735	0.994
SI3	3.715	0.963
SI4	3.785	0.879
Convenience		
C1	3.700	1.041
C2	3.685	0.985
C3	3.785	1.031
C4	3.645	0.961
C5	3.765	0.997
C6	3.800	0.951
Dependence		
D1	3.540	0.923
D2	3.535	0.918
D3	3.630	0.903
D4	3.740	0.973
D5	3.560	0.866
Purchase Behavior		
PB1	3.490	0.951
PB2	3.430	0.974
PB3	3.445	0.975
PB4	3.440	0.916

Source : data processed by SPSS 18.0 for Windows

Table 2 above shows the mean scores and standard deviations for each construct and its indicators. The mean sco res and standard deviations o f social needs scale items range from 3.555 to 3.765 and from 0.962 to 1.016. The mean scores and standard deviations of social influence scale items range from 3.715 to 3.785 and from 0.879 to 0.994. The mean scores and standard deviations of

convenience scale items range from 3.645 to 3.800 and from 0.951 to 1.041. The mean scores and standard deviations of dependence scale items range from 3.535 to 3.740 and from 0.866 to 0.973. The mean scores and standard deviations of purchase behavior scale items range from 3.430 to 3.490 and from 0.916 to 0.975. The reliability statistics (Cronbach alphas) of the five constructs are 0.810, 0.883, 0.829, 0.839, and 0.839 respectively for social needs, social influence, convenience, dependence and purchase behavior.

In Figure 1 below, the standardize solution confirmatory analysis of this particular study can be acquired by processing the data obtained using the LISREL 8.80 software.



Source : data processed by LISREL 8.80

Figure 1

Standardize Solution Confirmatory Factor Analysis

The results of the measurement model with the resulting standardize solution Lisrel 8.80 indicates that there is no negative error variance for each indicator, so the measurement models qualified and researchers are able to continue testing the validity of observed variables. Reliability and validity of testing performed for

any of the variables in the research by calculating the Average Variance Extracted (AVE) and the Construct of Reliability. Reliability is used to measure the internal consistency of the indicators in a variable that serves to know every indicator can be used in a variable.

Table 3

Variance Extracted and Construct Reliability Result

Indicators	λ	λ^2	e_i	Σλ	$(\Sigma\lambda)^2$	$\Sigma(\lambda^2)$	Σe_i	CR	VE
Social Need									
SN1	0.72	0.52	0.48						
SN2	0.73	0.53	0.47	2.93	8.58	2.15	1.85	0.82	0.54
SN3	0.74	0.55	0.45						
SN4	0.74	0.55	0.45						
Social Influence									
SI1	0.72	0.52	0.48						
SI2	0.72	0.52	0.48	2.92	8.53	2.13	1.87	0.82	0.53
SI3	0.74	0.55	0.45						
SI4	0.74	0.55	0.45						
Convenience									
C1	0.72	0.52	0.48						
C2	0.74	0.55	0.45						
C3	0.71	0.50	0.50	4.33	18.75	3.13	2.87	0.87	0.52
C4	0.70	0.49	0.51						
C5	0.72	0.52	0.48						
C6	0.74	0.55	0.45						
Dependency									
D1	0.71	0.50	0.50						
D2	0.71	0.50	0.50						
D3	0.72	0.52	0.48	3.60	12.96	2.59	2.41	0.84	0.52
D4	0.72	0.52	0.48						
D5	0.74	0.55	0.45						
Purchase Behavior									
PB1	0.74	0.55	0.45						
PB2	0.73	0.53	0.47	2.91	8.47	2.12	1.88	0.82	0.53
PB3	0.72	0.52	0.48						
PB4	0.72	0.52	0.48						

Source: data processed by LISREL version 8.80

Based on table 3 above can be seen that good a value for each variable in the VE study was greater than 0.5. In addition the value of the CR for each variable in this study are greater than 0.7. This indicates that each variable in this study have fulfilled both the value of VE or CR.

Researchers using reliability construct to test any existing variable within the model of research. The size of the extracted variance is used to find out the number of variants of the indicators extracted from the latent invalid constructs developed. Variance extracted with high value able to indicate that these

indicators can repr esent well against latent invalid construc ts developed. The recommended value for variance extracted is more than or equal to 0.5.

Based on the result of the confirmatory factor analysis done using LISREL 8.80, a quick measurement fit is done to check whether the model is fit to be used in the study. Thus, the measurement fit obtained is presented in Table 4 below.

Table 4

Goodness of Fit

No	Fitness Test	Term of Use	Result	Description
1	RMSEA	RMSEA ≤ 0,08	0,038	GoodFit
2	GFI	GFI ≥ 0,90(GoodFit) 0,80 ≤ GFI ≤ 0,90(MarginalFit)	0,89	MarginalFit
3	AGFI	AGFI ≥ 0,90 (GoodFit) 0,80 ≤ AGFI ≤ 0,90 (MarginalFit)	0,86	Marginalfit
4	TLI/NNFI	TLI ≥ 0,90	0,98	GoodFit
5	CMIN/DF	CMIN/DF ≤ 3	1,402	GoodFit
6	CFI	CFI ≥ 0,90 (GoodFit)	0,99	GoodFit

Source: data processed by LISREL version 8.8

The fitness tests being used in or der to mea sure the model fit include RMSEA, GFI, AGFI, TLI/NNFI, CMIN/DF and CFI.

According to the results above, all the measurements meet the required criteria, showing RMSEA, TLI/NNFI, CMIN/DF and CFI are in good fit, while only AGFI and GFI are in marginal fit.

The process of data processing by using SEM starts by doing research that will model specifications being estimated. Structural model of the specification by making the definition of causal relationships between v ariables of the study. Structural equation model structural suitability or test used to test the relationships between variables that previously hypothesized.

The results of the data processing using Lisrel 8.80 showing structural model in Figure 3 a variance error value is positive so it can be drawn the conclusion that structural models qualifie s and can proc eed to the stage of ex amination the validity of the observable variables. The observed variables are declared invalid if it has a loading factor ≥ 0.50.

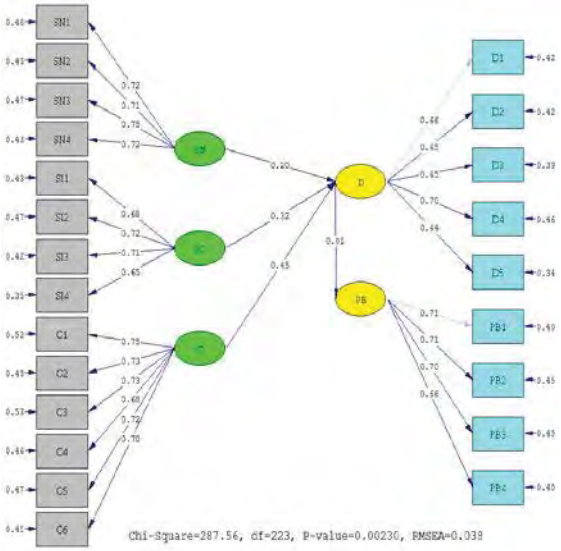


Figure 2

Estimated Structural Model

Source: data processed by LISREL version 8.80

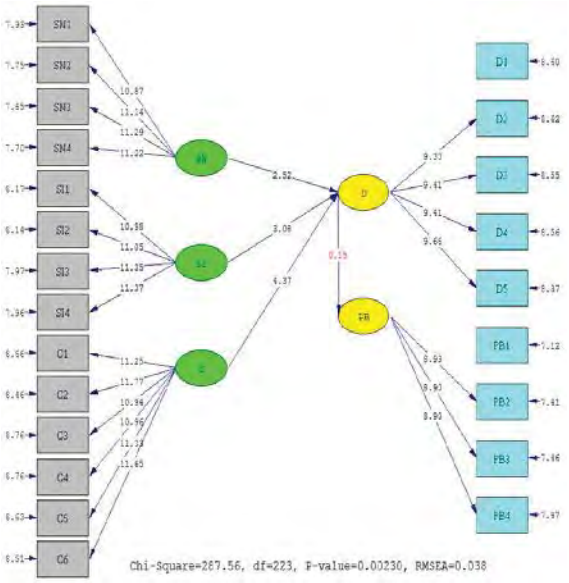


Figure 3

T-Value Structural Model

Source: data processed by LISREL version 8.80

In hypothesis testing, the testing done against structural equati on coefficients by specifying the level of significance. In this study used $\alpha = 0.05$, so the critical ratio of structural equations must be ≥ 1.96. Based on the results of the

processing of the output of the SEM has done the correlation co efficient value is obtained as follows.

Table 5

Hypothesis Testing Result

Hypothesis	Relationship	*Loading*	t-value	Cutoff	Description
1	SN→D	0,20	2,52	1,96	Supported
2	SI→D	0,32	3,08	1,96	Supported
3	C→D	0,45	4,37	1,96	Supported
4	D→PB	0,01	0,15	1,96	Not Supported

Source: data processed by LISREL version 8.80

Based on Table 5, hypothesis testing results can be explained as follows:

1. Social need has affects on customer dependence on *smart phone* in Surabaya of 0,20 with t-value of 2,52 (>t-tabel 1,96). This means social needs had significant influence against dependence
2. Social influence has affects on cust omer dependence on *smart phone* in Surabaya of 0,32 with t-value of 3,08 (>t-tabel 1,96). This means social influence had significant influence against dependency
3. Convenience has affects on customer d ependence on *smart phone* in Surabaya of 0,45 with t-value of 4,37 (>t-tabel 1,96). This means convenience had significant influence against dependence
4. Dependence has not af fects on cu stomer's purchase behavior on *smart phone* in Surabaya of 0,01 with t-valu e of 0,15 (<t-tabel 1,96). This mea ns dependence had no significant influence against purchase behavior

CONCLUSION AND RECOMMENDATION

Based on th e research result and st atistical tests c onducted, it can be concluded that from the main 5 (seven) hypotheses developed, 4 (five) of the hypotheses are proven, while the other one is rejected, in whic h in one of the rejected hypotheses. Nonetheless, these are the following explanations of each research result : 1) Social needs positively affects consumer dependence on smart phone in Surabaya. 2) Social influence positively affects consumer dependence on smart phone in Surabaya. 3) Convenience positively affects consumer dependence on smart phon e in Su rabaya. 4) Dependence negatively affects consumer's purchase behavior on smart phone in Surabaya

Based on this study, there are some recommendation that can be given for the smart phone manufacturer as well as for further research. **First** is for the smart phone manufacturer should produce smart phone with new features such as higher image resolution of the camera, better and faster operating system, smarter and lighter design, and any other new innovative of product features for both software and hardware. By better improve the Product Feature, and providing what is demanded, it might help Smartphone provider to improve sales and profit. **Second**, The company should design their smart phone in terms of the quality to ensure that the products meet or exceed the requirements needed. Another strategy, by providing greater memory space, user friendly interface and high speed internet connection. **Third**, The company should educate its employee and authorize retailers in order to have more knowledge on the new smart phone product. For example, giving examiners, trainings, or workshops.

During the process, this study has several limitations, in which can be further improved for the future research. Several of the limitations include : 1) This research conducted not using specific brand product, which is smart phone. Another research can be conducted using specific brand or product as object, to observe the overall social needs, social influence, and convenience of smart phone in Surabaya. 2) Future research can be conducted using other categories product. This aims to know the difference between social needs, social influence and convenience between different product which might affect the dependence and purchase behavior of customers. 3) This research conducted only in Surabaya. Future research can be conducted in other cities to observe how customer perception might differ between places. 4) This research faced some difficulties in terms of obtaining the respondents. Future research can be use non-purposive sampling as the data are already gathered by the company to ensure more accurate results.

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